



U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE
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(PTO-1449)

ATTY. DOCKET NO.
GC541-4-C1

SERIAL NO.
10/629,976

APPLICANT
Bott et al.

FILING DATE
July 30, 2003

GROUP ART UNIT
Unassigned

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	NAME	Class	Subclass	Filing Date If Appropriate
PH	A1	*5,403,737	04/04/95	Abrahmsen et al.	X	X	X
	A2	*5,629,173	05/13/97	Abrahmsen et al.			
	A3	*5,316,935	05/31/94	Arnold et al.			
	A4	*5,208,158	05/04/93	Bech et al.			
	A5	*5,244,791	09/14/93	Estell			
	A6	*5,316,941	05/31/94	Estell et al.			
	A7	*5,955,340	02/21/99	Bott			
PH	A8	*5,340,735	08/23/94	Christianson et al.			

FOREIGN PATENT DOCUMENTS

EXAM'R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	Subclass	TRANSLAT'N
PH	B1	*EP 3 328 229 A1	08/16/89	EP	X	X	X
	B2	*WO 00/01712	01/13/00	PCT			
	B3	*WO 91/16423	04/18/91	PCT			
	B4	*WO 96/27671	02/27/96	PCT			
	B5	*WO 97/37007	10/09/97	PCT			
	B6	*WO 98/23732	06/04/98	PCT			
	B7	*WO 99/20723	04/29/99	PCT			
	B8	*WO 99/37323	07/29/99	PCT			
PH	B9	*WO 99/37324	07/29/99	PCT			

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

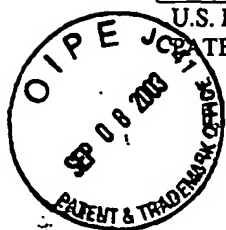
PH	C1	*Bech et al., "Chemical Modifications of a Cysteiny Residue Introduced in the Binding Site of Carboxypeptidase Y by Site-Directed Mutagenesis," <u>Carlsberg Res. Commun.</u> , 53:381-393 (1988)
	C2	*Bech et al., "Significance of Hydrophobic S ₄ -P ₄ Interactions in Subtilisin 309 from <i>Bacillus lentinus</i> ," <u>Biochemistry</u> , 32:2847-2852 (1993)
	C3	*Berglund et al., "Altering the Specificity of Subtilisin <i>B. Lentinus</i> by Combining Site-Directed Mutagenesis and Chemical Modification," <u>Bioorganic & Mechanical Chemistry Letters</u> , 6:2507-2512 (1996)
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	C7	*Brocklehurst, "Specific Covalent Modification of Thiols: Applications in the Study of Enzymes and Other Biomolecules," <i>Int. J. Biochem.</i> , 10:259-274 (1979)
	C8	*Bruice et al., "Novel Alkyl Alkanethiosulfonate Sulfhydryl Reagents. Modification of Derivatives of L-Cysteine," <i>Journal of Protein Chemistry</i> , 1:47-58 (1982)
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	C11	*Davis, B.G., et al., "Altering the specificity of subtilisin <i>Bacillus lentus</i> through the introduction of positive charge at single amino acid sites," <i>Bioorganic and Medicinal Chemistry</i> , (1999 Nov.) 7 (11) 2303-11, XPO000892841
	C12	*Davis, B.G., et al., "Controlled site selective protein glycosylation for precise glycan structure catalytic activity relationships," <i>Biorganic & Medicinal Chemistry</i> , Vol. 8, 2000, pp. 1527-1535
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	C15	Davis, B.G., et al., "Glycosyldisulfides: a new class of solution and solid phase glycosyl donors," <i>Chem. Commun</i> , 2001, pp.189-190
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C20	*DeSantis, G., et al., "Site-Directed Mutagenesis Combined with Chemical Modification As a Strategy for Altering the Specificity of the S1 and S1' Pockets of Subtilisin Bacillus Lentus," <i>Biochemistry</i> (1998) 37 (17) 5968-73
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C23	*Kaiser, "Catalytic Activity of Enzymes Altered at Their Active Sites," <i>Agnew. Chem. Int. Ed. Engl.</i> , 27:913-922 (1988)
C24	*Kawase et al., "Effect of Chemical Modification of Tyrosine Residues on Activities of Bacterial Lipase," <i>Journal of Fermentation and Bioengineering</i> , 72:317-319 (1991)
C25	*Kenyon et al., "Novel Sulfhydryl Reagents," <i>Methods Enzymol.</i> , 47:407-430 (1977)
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C37	*Ramachandran et al., "Stabilization of Barstar by Chemical Modification of the Buried Cysteines," <u>Biochemistry</u> , 35:8776-8785 (1996)
C38	*Roberts et al., "Reactivity of Small Thiolate Anions and Cysteine-25 in Papain Toward Methyl Methanethiosulfonate," <u>Biochemistry</u> , 25:5595-5601 (1986)
C39	*Siddiqui et al., "Arthrobacter D-Xylose Isomerase: Chemical Modification of Carboxy Groups and Protein Engineering Of pH Optimum," <u>Biochem. J.</u> , 295:685-691 (1993)
C40	*Smith et al., "An Engineered Change in Substrate Specificity of Ribulosebiphosphate Carboxylase/Oxygenase," <u>The Journal of Biological Chemistry</u> , 265:1243-1245 (1990)
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mm	C54	*Wynn et al., "Unnatural Amino Acid Packing Mutants of <i>Escherichia Coli</i> Thioredoxin Produced by Combined Mutagenesis/Chemical Modification Techniques," <u>Protein Science</u> , 2:395-403 (1993)

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